Claims:

1. A method of locating position of a satellite signal receiver, comprising:

determining a Doppler offset for each of a plurality of satellite signals relative to the satellite signal receiver at a first time; and

computing a position of the satellite signal receiver using the Doppler offset for each of the plurality of satellite signals.

2. The method of claim 1, wherein the position is a first fix of position for the satellite signal receiver.

3. The method of claim 1, wherein each of the plurality of satellite signals is associated with a predefined reference frequency.

4. The method of claim 1, wherein the plurality of satellite signals comprises at least one of a global positioning system (GPS) signal, a Galileo system signal, and a Glonass system signal.

5. The method of claim 1, wherein the computing step comprises:

estimating an initial position of the satellite signal receiver;

forming Doppler residuals using the initial position and the Doppler offset for each of the plurality of satellite signals;

relating the Doppler residuals to a change in the initial position; and

computing an update of the initial position.

6. The method of claim 5, wherein the estimating step comprises:

obtaining an approximate position of the satellite signal receiver from a wireless communication system.

7. The method of claim 5, wherein the initial position is an arbitrary location.

8. The method of claim 5, wherein the initial position is a center of a country or a continent in which the satellite signal receiver is operating.

9. The method of claim 1', further comprising:

computing a frequency error associated with an oscillator of the satellite signal receiver using the Doppler offset for each of the plurality of satellite signals.

10. The method of claim 1, further comprising:

computing velocity of the satellite signal receiver using the Doppler offset for each of the plurality of satellite signals.

11. A method of locating position of a satellite signal receiver, comprising:

determining at least one pseudorange between the satellite signal receiver and a respective at least one satellite;

determining at least one Doppler offset for a respective at least one satellite signal relative to the satellite signal receiver; and

computing a position of the satellite signal receiver using the at least one pseudorange and the at least one Doppler offset.

12. The method of claim 11, wherein the at least one satellite signal is respectively transmitted by the at least one satellite.

13. The method of claim 11, wherein the at least one satellite signal is transmitted by a respective at least one additional satellite.

14. The method of claim 11, wherein the position is a two-dimensional position comprising x and y coordinates in a horizontal plane.

15. The method of claim 11, wherein the computing step comprises:

estimating an initial position of the satellite signal receiver;

forming Doppler residuals using the initial position and the at least one Doppler offset;

forming pseudorange residuals using the initial position and the at least one pseudorange;

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relating the Doppler residuals and the pseudorange residuals to a change in the initial position; and

computing an update of the initial position.

16. The method of claim 15, wherein the estimating step comprises:

obtaining an approximate position of the satellite signal receiver from a wireless communication system.

17. The method of claim 15, wherein the initial position is an arbitrary location.

18. The method of claim 15, wherein the initial position is a center of a country or a continent in which the satellite signal receiver is operating.

19. The method of claim 11, wherein the at least one pseudorange is a sub-millisecond pseudorange.

20. The method of claim 19, wherein the computing step comprises:

computing an initial position of the satellite signal receiver using the at least one Doppler offset;

computing an integer millisecond portion of the at least one pseudorange using the initial position;

forming pseudorange residuals using the at least one pseudorange and the initial position; and

computing an update of the initial position.

21. The method of claim 11, wherein the position is a first fix of position for the satellite signal receiver.

22. The method of claim 11, further comprising:

computing a frequency error associated with an oscillator of the satellite signal receiver using the at least one Doppler offset and the at least one pseudorange.

23. The method of claim 11, further comprising:

computing a time error associated with a clock of the satellite signal receiver using the at least one Doppler offset and the at least one pseudorange.

24. The method of claim 11, further comprising:

computing velocity of the satellite signal receiver using the at least one Doppler offset and the at least one pseudorange.

25. A method of locating position of a satellite signal receiver, comprising:

determining a Doppler offset for each of a plurality of satellite signals relative to the satellite signal receiver at a first time; and

transmitting the Doppler offset for each of the plurality of satellite signals to a server for computing a position of the satellite signal receiver.

26. An apparatus for locating position of a satellite signal receiver, comprising:

a satellite signal receiver for receiving a plurality of satellite signals; and

a microcontroller for determining a Doppler offset for each of the plurality of satellite signals relative to the satellite signal receiver at a first time and computing a position of the satellite signal receiver using the Doppler offset for each of the plurality of satellite signals.

27. An apparatus for locating position of a satellite signal receiver, comprising:

a satellite signal receiver for receiving satellite signals; and

a microcontroller for determining at least one pseudorange between the satellite signal receiver and at least one satellite, determining at least one Doppler offset for at least one satellite signal of the satellite signals relative to the satellite signal receiver, and computing a position of the satellite signal receiver using the at least one pseudorange and the at least one Doppler offset.

28. A system for locating position, comprising:

a mobile device having a satellite signal receiver, a microcontroller, and

a wireless transceiver; and

a server in wireless communication with the mobile device;

where the satellite signal receiver receives a plurality of satellite signals;

where the microcontroller determines a Doppler offset for each of the plurality of satellite signals relative to the satellite signal receiver at a first time; and

where the wireless transceiver transmits the Doppler offset for each of the plurality of satellite signals to the server for computing a position of the mobile device.

29. A system for locating position, comprising:

a mobile device having a satellite signal receiver, a microcontroller, and a wireless transceiver; and

a server in wireless communication with the mobile device;

where the satellite signal receiver receives satellite signals;

where the microcontroller determines at least one pseudorange between the satellite signal receiver and at least one satellite and determines at least one Doppler offset for at least one satellite signal of the satellite signals relative to the satellite signal receiver; and

where the wireless transceiver transmits the at least one pseudorange and the at least one Doppler offset to the server for computing a position of the mobile device.